

PIANO RESTORATION AGREEMENT

Date: January 25, 2012
Piano: Steinway
Size/Model: "B"
Serial #: 228263 (1928)
Client: Elizabeth Blozé

BELLYWORK:

PIANO RESTORATION AGREEMENT 1

- Tighten/restore lyre support system
- Regulate back action (damper system)650.00
- Install new Steinway keyset3442.00

ACTION:

- Rebuilt, re-engineered keyframe with new keysticks with idealized fulcrum & key ratio4850.00
- Replace hammers:920.00
 - Prepare new hammers via Stanwood-influenced, Renner-influenced Bellieu method
 - Hang hammers to specifications in 3 dimensions
 - Redistribute key leads to match hammer weight
- Replace shanks700.00
 - Weigh, travel & re-pin shanks
- Replace whippens and flanges with exact action spread620.00
 - Install new let-off buttons
 - Travel; re-pin as necessary
- Raise keys to correct height & level275.00
- Complete action fitting and regulation (32-point Garlick method)950.00
- Complete tone regulation & voicing650.00

CASE:

- Lid veneer repair, Complete stripping, then refinish rubbed to semi-gloss6850.00
 - Re-plated/buffed and sealed hardware
 - New leather buttons and new fallboard decal (color-match to client's preferred shade)
- Check leg fittings; reseal & tighten.....100.00

CARTAGE:

• Cartage (3)1200.00

SUBTOTAL LABOR..... \$43,067.00

PARTS:

Renner action parts:

- Shanks and flanges665.00

- Wippens.....1379.00

- Hammers532.00

- Under lever system kit742.00

Let-off buttons67.20

String cover379.00

Leg dollies200.20

CA sales tax 8.75%.....346.89

SUBTOTAL PARTS..... \$4,311.29

GRAND TOTAL\$47,378.29

TERMS: 50% upon commencement of work, possible progress payment of additional 20% when bellywork is complete, balance upon satisfactory completion.

All parts & supplies the finest available. All work done to the highest standard.

PLEASE NOTE: David Andersen reserves the right to change this estimate of repair if significant anomalies are discovered during the dismantling, testing & restoration process, but only after full explanation of new charges, if any, to, and with express permission of, the client named below.

Piano will be bonded and insured by David Andersen during all phases of restoration, including storage and cartage.

Project will take no longer than 7 months.

David Andersen will provide Elizabeth Blozé with a rented piano during the course of the restoration work, if so desired. Elizabeth agrees to allow David to show the rented piano in her house for sale.

This agreement is entered into in January 25, 2012 and is made willingly by both parties.

David Andersen

Date

Elizabeth Blozé

Date

Piano Restoration Agreement

Piano: Steinway

Size/Model: "D"(8'11")

Serial #: 134000 (1908; completely rebuilt w/ new action, new soundboard in 1961)

Client: WARNER BROS. STUDIOS

January 10, 2012

BELLYWORK:

Destring & restring capo area (treble) w/ Mapes Gold wire, lift, level, and seat all strings	975.00
Restore "V" profile to capo d'astro bar	300.00
Treat bridge pins with CA to maximize termination efficiency	150.00
Replace damper guide rail bushings	350.00
2 rough, 2 fine tunings	300.00
Remanufacture pedal lyre & trapwork	450.00
<ul style="list-style-type: none">• Make keyed modification• Tighten/restore lyre support system	
Install new Renner back/damper action w/ modern flanges, exact geometry	1850.00
Install & customize new Tokiwa damper felt	595.00
Regulate back action (damper system)	350.00

ACTION:

Replace hammers:	1820.00
<ul style="list-style-type: none">• Prepare new hammers via Stanwood-influenced, Renner-influenced <u>Bellieu</u> method• Hang hammers to spec in 3 dimensions	
Replace shanks	800.00
<ul style="list-style-type: none">• Weigh, travel & repin shanks	

Replace whippens and flanges with exact action spread	820.00
• Install new letoff buttons	
• Travel; repin rep lever flanges to exact spec	
Relocate capstan line to improve action & key ratios	1345.00
Redistribute key leads to match new action ratio & geometry	1120.00
Rebuild keyframe:	
• Replace back, balance, and front rail cloth	250.00
• Rebush keys, both rails	300.00
• Replace key end felts, polish & lube rail pins	250.00
• New backchecks & wires	350.00
• Raise keys to correct height & level	125.00
Complete action fitting and regulation (32-point Garlick method)	850.00
Complete tone regulation & voicing	450.00
Action parts, back action (Renner), strings, underfelt, leather	3875.00
TOTAL ALL PAGES	\$17,675.00

Terms: 50% upon commencement of work, balance upon satisfactory completion.

All parts & supplies the finest available. All work done to the highest standard.

PLEASE NOTE: David Andersen reserves the right to change this estimate of repair if significant anomalies are discovered during the dismantling, testing & restoration process, but only after full explanation of new charges, if any, to, and with express permission of, the client named below.

Piano will be bonded and insured by David Andersen Pianos during all phases of restoration, including storage and cartage.

Project will take no longer than ten weeks.

This agreement is entered into on January 10, 2010, and is made willingly by both parties.

David Andersen

Date

Date

(for Warner Bros. Studios)

A SUMMARY OF BUILDING A STANWOOD PRECISION TOUCH DESIGN ACTION:

2-4 hours of action testing & evaluation with Stanwood jigs and protocols ;
at least 12 full note mechanisms tested to determine
-Action Ratio (original & targeted)
-Key Ratio (original & targeted)

- Shank Strike Weight (original & targeted)
- Action spread (original & targeted)
- Front Weight (original & targeted)
- Up Weight (original & targeted)
- Down Weight (original & targeted)
- Balance Weight (original & targeted)

With this information, plus many other internal distance & weight measurements, the expertise and intuition a lot of experience brings, and some proprietary software data from Mr. Stanwood we determine a **Strike Weight Curve**, with each hammer prepared, tapered, arced, and coved to weigh not more than a tenth of a gram's difference as they ascend up the scale (and *descend* in weight.)

If we determine we need to change the capstan line to be idealized, and to thereby idealize the key and action ratios (almost a certainty with this action) we may need to modify the standard Renner whippen heel to accommodate the proximal move of the capstan.

From our testing and maps we order the correct parts from Renner, including hand-selected and tested Weickert felt hammers.

We confirm the frame and keys will be a proper foundation when rebuilt (included in the bid.)

We check the maple dowels inside the action rails for cracking and/or internal "give," i.e., loose action screws.

We knock most if not all of the leads out of the keys and fill the holes.

We rebuild the keys and frame. We correct stack elevation issues if any arise to conform to the new specs.

We repin all the action flanges to our custom specs.

We weigh all the shanks, and distribute them accordingly (bottom to top, heavy to light.)

We attach the new parts on our test notes, measure distance in three dimensions, fit shanks with "dry-fit" hammers, and test with weight (Stanwood protocols.)

When tests confirm our work, we move on to completion.

We add custom-placed and weighted lead back to keys to achieve our smooth Front Weight and Balance Weight.

When tests confirm our work, we move on to completion.

At completion we have a component balanced, highly idealized Renner action with

---an action ratio around 5.5

---a key ratio very close to 1:2

---a Balance Weight throughout of 37.5-38.0

---a blow distance of 47mm

---key travel of 10.2-10.3mm

---an extremely smooth Strike Weight Curve

---an extremely smooth Front Weight Curve, and

---the proper and intentional friction at all flanges and other friction points

Total test, evaluation and scope-of-work process takes at least one full day, sometimes another half-day, and is constantly revisited and confirmed throughout the restoration process, which takes a total of 120-140 hours.

Piano Restoration Agreement

Piano: Steinway

Size/Model: "B"(6'11")

Serial #: ca. 1938

Client: St. Olaf College

August 26, 2011

ACTION:

Replace back action (damper system)

with Renner retrofit, incl.

corrected/aligned geometry

with keyframe 1650.00

Replace damper guide rail bushings,

refurbish guide rail 250.00

New damper felts 490.00

- Clean and polish, spray damper heads

- Clean, polish wires

Regulate back action (damper system) 750.00

Cost of parts from Renner 1260.00

Replace hammers: 3720.00

- **Prepare new hammers via Stanwood-influenced,
Renner-influenced DAP**

method w/ PTD protocols

- **Hang hammers to spec in 3 dimensions**
- **Redistribute key leads to match hammer weight**

Replace shanks 400.00

- Weigh, travel & repin shanks

Replace whippens and flanges with exact action spread 420.00

- Install new letoff buttons
- Travel; repin as necessary
- **REPLACE KEYFRAME & KEYS w/ custom-built set by Roseland Piano---**
idealized key and action ratio, all new everything, best materials available,
made to exact DAP
specs and world-standard fabrication 4206.00

TOTAL ALL PAGES	\$17,486.00
------------------------	--------------------

All parts & supplies the finest available. All work done to the highest standard.

Piano will be bonded and insured by David Andersen Pianos during all phases of restoration, including storage and cartage.

Project will take no longer than six months.

This agreement is entered into on September 1, 2011, and is made willingly by both parties.

Date

Date

